

LOGICAL SYSTEMS

AUTOMATION & INTEGRATION SERVICES



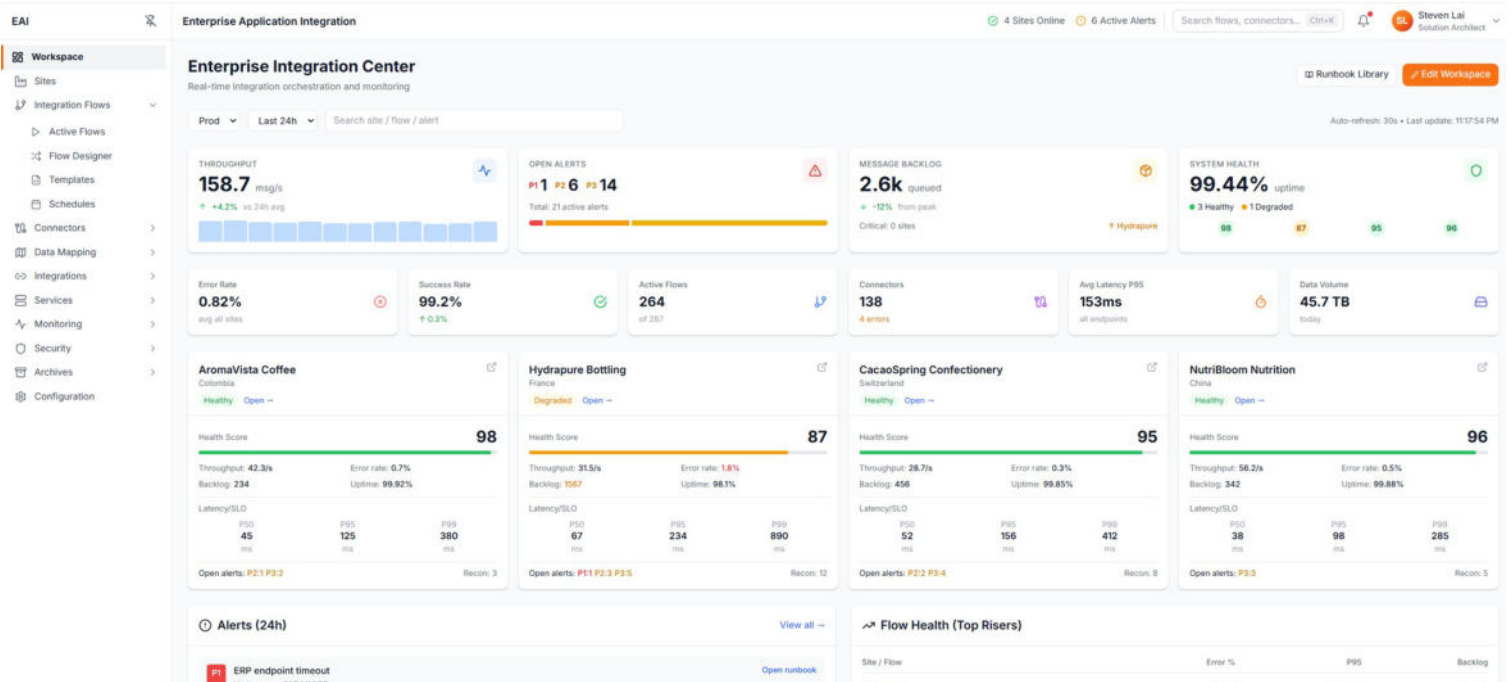
DATASHEET

Enterprise Application Integration

Unify Systems. Eliminate Silos. Drive Agility.

Modern manufacturers depend on a diverse mix of ERP, MES, WMS, LIMS, historians, IoT devices, and cloud platforms. When these systems remain disconnected, critical data becomes trapped in silos, slowing down decisions, creating operational blind spots, and amplifying errors. Traditional integration approaches are often brittle, custom-coded, and difficult to maintain with IT teams struggling to keep pace while business operations suffer from delays and inefficiencies.

The LOGICAL SYSTEMS Enterprise Application Integration (EAI) application provides a modern solution by transforming these fragmented endpoints into a cohesive, real-time integration fabric. Built on Ignition® and leveraging proven integration patterns, the EAI app enables organizations to orchestrate seamless data flows across production, logistics, and enterprise layers. It empowers teams to monitor throughput, latency, and success rates in real time while scaling effortlessly across plants and global networks. By extending existing SCADA infrastructure into a unified integration hub, EAI ensures that operational systems, enterprise applications, and on-premise/cloud services communicate as one, preserving past investments while creating a scalable foundation for the future.



Unlike conventional middleware that obscures processes, EAI emphasizes transparency and control with intuitive mapping, flow design, and monitoring dashboards. Engineers, supervisors, and managers alike gain full visibility into the health and performance of every integration, allowing them to act with confidence. Whether deployed on a single production line or across a multi-site enterprise, EAI delivers secure, reliable, and future-ready integration that transforms system connectivity into a strategic advantage.

Core Capabilities

Connectivity & Integration

- Pre-built connectors for ERP, MES, WMS, LIMS and cloud platforms
- Support for REST, SOAP, MQTT, OPC UA, Kafka, and file/SFTP protocols
- Centralized payload definitions with schema mapping and transformation
- Reusable validation rules for master data, quality, and compliance checks

Flow Orchestration

- Visual flow designer for drag-and-drop integration logic
- Conditional routing, enrichment, and transformation nodes
- End-to-end transaction tracking with error handling and retries
- Reusable templates for common integration scenarios (work orders, recipes, lab results)

Monitoring & Governance

- Real-time dashboards for throughput, latency, and success rates
- Centralized error queue with alerting and escalation workflows
- Audit trail for regulatory compliance and change tracking
- Multi-site visibility with unified monitoring across plants and partners

Data Quality & Validation

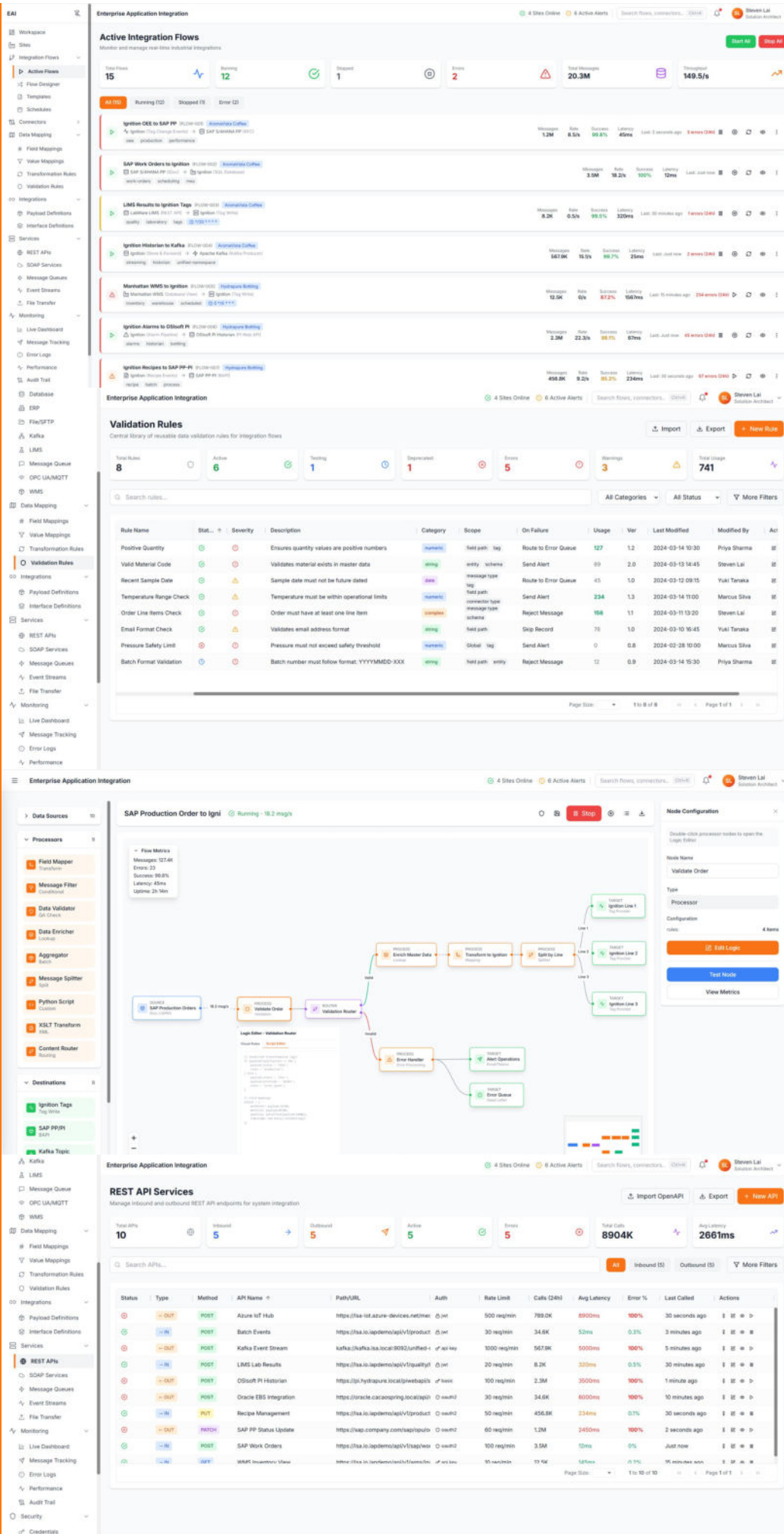
- Built-in library of reusable validation rules (e.g., material code, temperature range, batch format)
- On-failure actions such as alerting, rejection, or rerouting to error queues
- Inline enrichment with master data for consistency across systems
- Configurable severity levels to match operational risk profiles

Scalability & Performance

- Horizontal scaling across multiple plants, sites, and partners
- High-volume throughput with store-and-forward reliability
- Cloud-ready architecture with hybrid on-premise deployment options
- Enterprise-grade security with authentication, authorization, and encryption

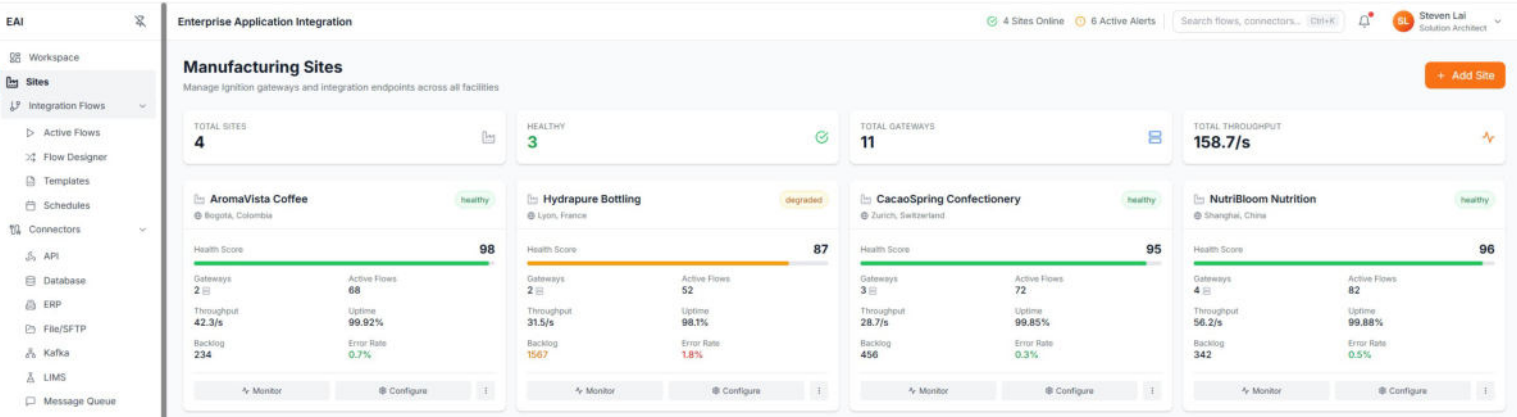
API & Event Services

- Auto-generated REST and SOAP endpoints for exposing integration logic
- Real-time event streaming into Kafka, Azure IoT, and other cloud hubs
- Message queuing for asynchronous, decoupled integration
- Secure file transfer and batch processing for legacy system support



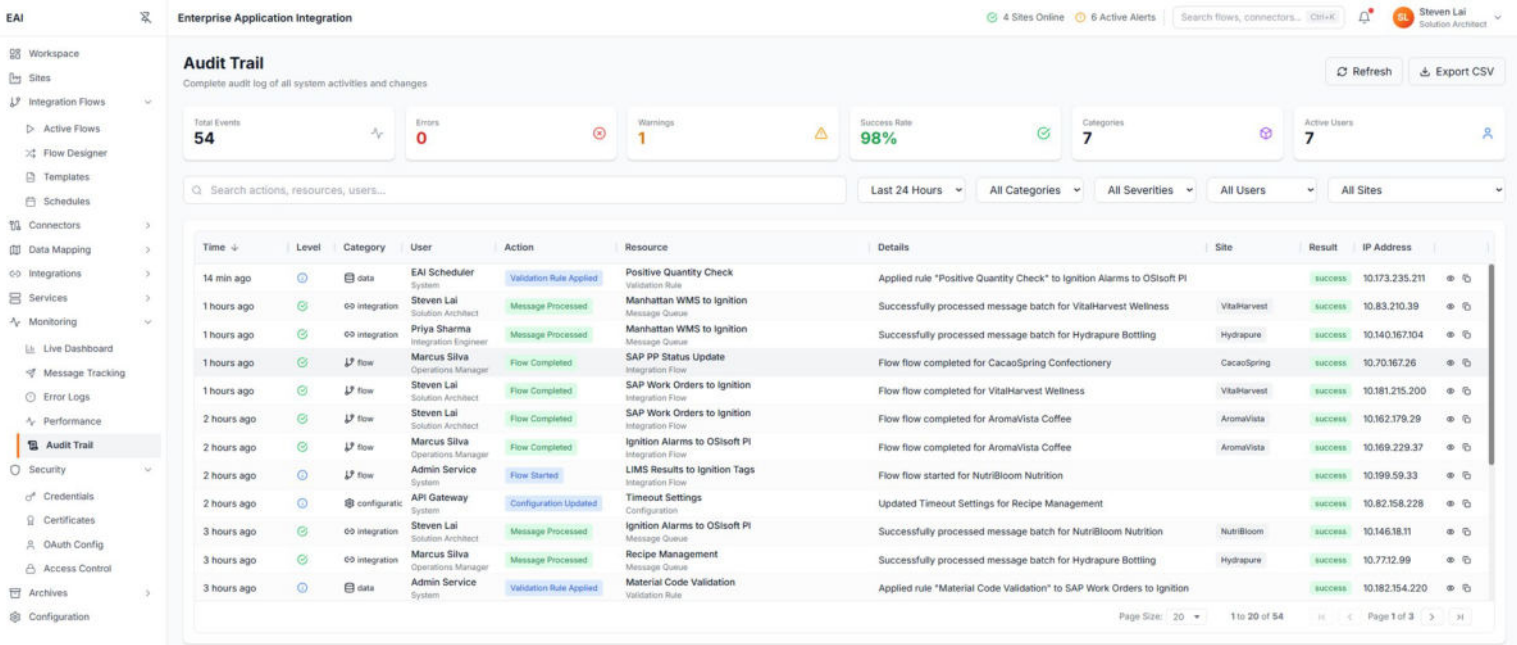
Intelligent Connectivity

Bringing together Manufacturing IT and OT



The EAI app transforms your landscape of disconnected systems into a unified, intelligent fabric. Instead of brittle point-to-point links, EAI delivers a reusable, monitored, and transparent integration layer that powers your operations:

- **System Interoperability:** Connect ERP, MES, WMS, LIMS, historians, and cloud applications with prebuilt connectors and open standards.
- **Real-Time Data Orchestration:** Move and transform data across sites and applications with guaranteed delivery, error handling, and validation.
- **Contextual Enrichment:** Enhance raw events with master data, quality results, or production context before passing them downstream.
- **Adaptive Integration Hub:** Scale from a single site pilot to global, multi-tenant enterprise deployments without re-architecting.
- **Transparent Monitoring:** Visualize throughput, latency, and success rates with dashboards engineers and business leaders can trust.



Integration Intelligence You Can Act On

- **Integration KPIs:** Measure flow health in real time for messages processed, average latency, error frequency, and retry success.
- **Audit & Compliance:** Trace every transaction end-to-end with validation rules, version control, and full audit trails for regulatory and corporate governance requirements.
- **Business Impact Metrics:** Link integration performance to order fulfillment, batch release time, or supply chain agility.



Key Features and Benefits

Features

- Real-time integration flows with live monitoring of throughput, latency, and error rates
- Prebuilt connectors for ERP, MES, WMS, LIMS, historians, IoT, and cloud platforms
- Graphical flow designer with drag-and-drop mapping, enrichment, validation, and routing
- Reusable payload definitions and transformation rules for standardizing interfaces
- Centralized validation engine with configurable business rules and error handling
- Scalable multi-site deployment with role-based access and enterprise-grade security
- REST, SOAP, MQTT, Kafka, and file-based integration in a single unified platform
- Built-in monitoring dashboards for message tracking, audit trail, and performance analytics
- Extensible scripting support (JavaScript) for custom business logic
- Seamless SCADA extension to transform OT data into enterprise-ready transactions

Benefits

- Accelerated digitalization by replacing brittle point-to-point links with a flexible hub
- 30–50% faster integration projects through reusable mappings and templates
- Reduced IT maintenance costs with centralized monitoring and self-service configuration
- Enterprise-wide data consistency across ERP, MES, WMS, LIMS, and cloud applications
- Improved decision-making with real-time visibility into integration health and flows

Technical Requirements

System Requirements

Ignition® (8.1.+) Core Modules, Quad-core processor, 16 GB RAM, 20 GB free disk space

Supported Operating Systems

Windows Server 2019/2022/2025, Windows 10/11, macOS (X, 10.16+), Linux (Ubuntu, CentOS, RHEL)

Supported Protocols

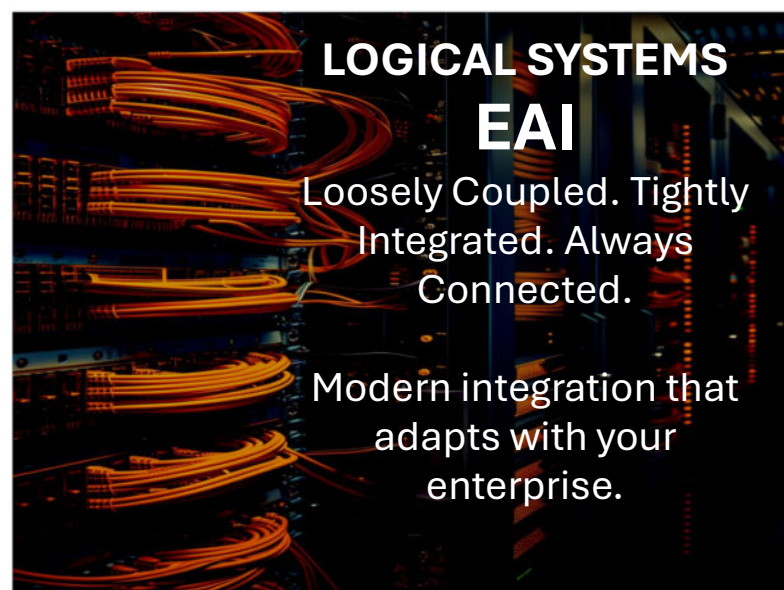
MQTT, OPC UA / OPC DA, REST API (JSON Payloads)
Kafka (via connector), Snowflake (via pipeline, data bridge)

Supported Databases

Microsoft SQL Server, Oracle, MySQL, MariaDB, PostgreSQL, any database with JDBC driver

Supported Browsers

Chrome, Firefox, Safari, Microsoft Edge



LOGICAL SYSTEMS EAI

Loosely Coupled. Tightly
Integrated. Always
Connected.

Modern integration that
adapts with your
enterprise.

LOGICAL SYSTEMS
AUTOMATION & INTEGRATION SERVICES

Specialists in Automation & Digitalization for Manufacturing Industries

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